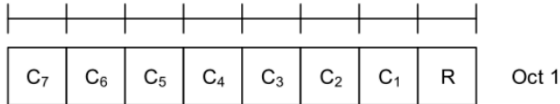# Exhibit 3

Exhibit 3
U.S. Patent No. 9,144,106
v.
AT&T's 5G Cellular Services ("Exemplary Product")

Claim Language	Selected Analysis and Evidence Regarding Exemplary Product
Claim 1	
[pre] A carrier management method of a base station for use in a carrier aggregation environment, comprising:	The Exemplary Product is a carrier management method of a base station for use in a carrier aggregation environment. For example, Defendant markets and sells 5G cellular services to customers. *E.g.*, https://www.att.com/5g/consumer/ ( ). The 5G technology used by Defendant is defined by a wireless standards body in which Defendant is a member, the 3rd Generation Partnership Project ("3GPP"). 3GPP promulgates a number of standards including the 38.xxx series that defines the standards for 5G. These standards, including the specific aspects of the standards discussed below, define a method for managing base stations such as those utilized by Defendant in offering its 5G cellular services. The Exemplary Product has been infringing since at least its implementation of the standards set forth in version 15.4.0 of the 38.xxx series. On information and belief, the functionality described in this chart has been implemented in all versions of the 38.xxx series published

Claim Language	Selected Analysis and Evidence Regarding Exemplary Product
	after version 15.4.0. The Exemplary Product may also have practiced the disclosed functionality prior to the publication of version 15.4.0 of the 38.xxx series.
	Investigation of both the patent and the Exemplary Product (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Wireless Alliance reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses and discovery is provided by the defendant.
[a] transmitting a deactivation message for a secondary carrier to a terminal;	The base station in the Exemplary Product transmits a deactivation message for a secondary carrier to a terminal. For example, 3GPP TS 38.321 V15.4.0 ("TS 38.321") describes, among other things, the deactivation of SCells by sending a deactivation message to a terminal. *E.g.*, TS 38.321 (which can be downloaded at https://www.3gpp.org/ftp//Specs/archive/38_series/38.321/38321-f40.zip) at 42-43, 61-62 (**5.9 Activation/Deactivation of SCells** If the MAC entity is configured with one or more SCells, the network may activate and deactivate the configured SCells. Upon configuration of an SCell, the SCell is deactivated. The configured SCell(s) is activated and deactivated by: - receiving the SCell Activation/Deactivation MAC CE described in subclause 6.1.3.10; - configuring *sCellDeactivationTimer* timer per configured SCell (except the SCell configured with PUCCH, if any): the associated SCell is deactivated upon its expiry. The MAC entity shall for each configured SCell: 1> if an SCell Activation/Deactivation MAC CE is received activating the SCell: 2> activate the SCell according to the timing defined in TS 38.213 [6]; i.e. apply normal SCell operation including: 1> else if an SCell Activation/Deactivation MAC CE is received deactivating the SCell; or 1> if the *sCellDeactivationTimer* associated with the activated SCell expires: 2> deactivate the SCell according to the timing defined in TS 38.213 [6]; 2> flush all HARQ buffers associated with the SCell.

'106 Patent v. AT&T's 5G Cellular Services

Claim Language	Selected Analysis and Evidence Regarding Exemplary Product
	6.1.3.10 SCell Activation/Deactivation MAC CEs The SCell Activation/Deactivation MAC CE of one octet is identified by a MAC PDU subheader with LCID as specified in Table 6.2.1-1. It has a fixed size and consists of a single octet containing seven C-fields and one R-field. The SCell Activation/Deactivation MAC CE with one octet is defined as follows (Figure 6.1.3.10-1). The SCell Activation/Deactivation MAC CE of four octets is identified by a MAC PDU subheader with LCID as specified in Table 6.2.1-1. It has a fixed size and consists of four octets containing 31 C-fields and one R-field. The SCell Activation/Deactivation MAC CE of four octets is defined as follows (Figure 6.1.3.10-2). - C_i: If there is an SCell configured for the MAC entity with $SCellIndex$ i as specified in TS 38.331 [5], this field indicates the activation/deactivation status of the SCell with $SCellIndex$ i, else the MAC entity shall ignore the C_i field. The C_i field is set to "1" to indicate that the SCell with $SCellIndex$ i shall be activated. The Ci field is set to "0" to indicate that the SCell with $SCellIndex$ i shall be deactivated; - R: Reserved bit, set to "0". | C_7 | C_6 | C_5 | C_4 | C_3 | C_2 | C_1 | R | Oct 1 **Figure 6.1.3.10-1: SCell Activation/Deactivation MAC CE of one octet**). Investigation of both the patent and the Exemplary Product (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Wireless Alliance reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses and discovery is provided by the defendant.
[b] changing the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message; and	The base stations used in the Exemplary Product change the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message. For example, TS 38.321 describes the timing of deactivation being described in TS 38.213. TS 38.321 at 43 (1> else if an SCell Activation/Deactivation MAC CE is received deactivating the SCell; or 1> if the $sCellDeactivationTimer$ associated with the activated SCell expires: 2> deactivate the SCell according to the timing defined in TS 38.213 [6]; 2> flush all HARQ buffers associated with the SCell.

'106 Patent v. AT&T's 5G Cellular Services

Claim Language	Selected Analysis and Evidence Regarding Exemplary Product
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3GPP TS 38.213 V15.4.0 ("TS 38.213") describes the SCell being deactivated after a predetermined amount of time. *E.g.*, TS 38.213 (which can be downloaded at https://www.3gpp.org/ftp//Specs/archive/38_series/38.213/38213-f40.zip) at 11 (

4.3 Timing for secondary cell activation / deactivation

If a UE receives a deactivation command [11, TS 38.321] for a secondary cell or the *sCellDeactivationTimer* associated with the secondary cell expires in slot n, the UE applies the corresponding actions in [11, TS 38.321] no later than the minimum requirement defined in [10, TS 38.133], except for the actions related to CSI reporting on a serving cell which is active which the UE applies in slot $n+k$.

). *See also* 3GPP TS 38.133 V15.4.0 (which can be downloaded at https://www.3gpp.org/ftp//Specs/archive/38_series/38.133/38133-f40.zip) at 69-70 (

8.3.3 SCell Deactivation Delay Requirement for Activated SCell

The requirements in this section shall apply for the UE configured with one downlink SCell in SCG in EN-DC, or in standalone NR carrier aggregation.

Upon receiving SCell deactivation command or upon expiry of the *sCellDeactivationTimer* in slot n, the UE shall accomplish the deactivation actions for the SCell being deactivated no later than in slot $n+[T_{HARQ} +3ms]$.

The interruption on PSCell or any activated SCell in SCG for EN-DC mode specified in section 8.2 shall not occur before slot $n+1+[T_{HARQ}]$ and not occur after slot $n+1+[T_{HARQ} +3ms]$.

The interruption on PCell or any activated SCell in MCG for NR standalone mode specified in section 8.2 shall not occur before slot $n+1+[T_{HARQ}]$ and not occur after slot $n+1+[T_{HARQ} +3ms]$.

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| [c] stopping downlink (DL) transmission of the secondary carrier and initializing uplink (UL) and DL | The base stations in the Exemplary Product stop downlink (DL) transmission of the secondary carrier and initialize uplink (UL) and DL retransmissions buffers after transmitting the deactivation method. |

Claim Language	Selected Analysis and Evidence Regarding Exemplary Product

retransmission buffers after transmitting the deactivation message.	For example, TS 38.321 describes stopping transmissions and flushing all HARQ buffers associated with an SCell after the deactivation message is transmitted. TS 38.321 at 42-43 (
	
	5.9 Activation/Deactivation of SCells
	
	1> else if an SCell Activation/Deactivation MAC CE is received deactivating the SCell; or
	
	1> if the *sCellDeactivationTimer* associated with the activated SCell expires:
	
	    2> deactivate the SCell according to the timing defined in TS 38.213 [6];
	
	    2> flush all HARQ buffers associated with the SCell.
	
	1> if the SCell is deactivated:
	
	    2> not transmit SRS on the SCell;
	
	    2> not report CSI for the SCell;
	
	    2> not transmit on UL-SCH on the SCell;
	
	    2> not transmit on RACH on the SCell;
	
	    2> not monitor the PDCCH on the SCell;
	
	    2> not monitor the PDCCH for the SCell;
	
	    2> not transmit PUCCH on the SCell.
	
	).
	
	Investigation of both the patent and the Exemplary Product (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Wireless Alliance reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses and discovery is provided by the defendant.

'106 Patent v. AT&T's 5G Cellular Services

'106 Patent v. AT&T's 5G Cellular Services